

We are a freshman class at Stanford University, taking a course on food science and politics. Here, we offer our commentary on Question #3, "should the Working Group recommendations include targets for nutrients to encourage and, if so, how should the recommendations address the issue of nutrients added to foods through fortification as opposed to nutrients that are inherent in foods?" Our position is that, while there are benefits to fortified foods, we support the recommendation that fortified foods be treated differently from what we call "whole foods," foods with nutrients inherent in them.

Fortification is beneficial when basic nutrients are lacking in one's diet. In "Vitamin C: Is Supplementation Necessary for Optimal Health?," Deruelle and Baron discuss the possibility that consumers may not be able to get enough Vitamin C without supplementation in order to achieve a healthy amount of nutrition. And indeed, as stated by the Novant Medical Group, in the United States roughly half of the population of children is said to be lacking in calcium, a basic nutrient that is commonly added to many foods. Since cereals fortified with vitamins and other nutrients are widely consumed, fortification certainly has a place in the diet of Americans.

However, there is danger in eating fortified goods thinking that one is getting the same nutritional value as with whole foods. Not creating two separate sets of guidelines might give the public the impression that whole and fortified foods are indeed equivalent in nutritional value, which is not necessarily true. Whole foods contain many other nutrients in addition to vitamins and minerals, such as phytonutrients, which give them their health promoting properties. This can be seen in a study by researchers from the University of Milan, "Orange Juice vs Vitamin C: Effect on Hydrogen Peroxide-induced DNA Damage in Mononuclear Blood Cells" in which they compared the effects of blood orange juice and a drink supplemented with the same amount of vitamin C. The authors concluded that "no effect of the vitamin supplementation was observed," proving that the protective effects of DNA damage from the orange juice did not stem from vitamin C alone and implying that other phytochemicals in the orange juice were involved. Thus, the consumption of isolated vitamins does not confer the same nutritional benefits as whole foods.

Because fortified foods are not synonymous with whole foods, they do not constitute a completely nutritious diet. Therefore, they should not be considered a preventative measure for obesity. In fact, consuming too much fortified food may even increase obesity along with other harmful health conditions because consumers feel that they are eating healthfully simply because they are eating fortified foods, and therefore do not pay sufficient attention to other parts of their diets.

In fact, too much fortification can be harmful, particularly for children, as Samaniego-Vaesken, de Lourdes, Alonso-Apperte, and Varela-Moreiras discuss in "Analysis and Evaluation of Voluntary Folic Acid Fortification of Breakfast Cereals in the Spanish Market." The researchers found that cereals fortified with folic acid have the potential to put children ages 1-6 at a high risk for overconsumption of FA, as many low-fat cereals contain more than half of their tolerable upper intake levels.

Therefore we support a recommendation for foods like cereals to be clearly labeled as fortified. This would be useful to consumers and increase transparency of fortified food products. We believe it would not negatively effect the industry because the word "fortified" could have a positive connotation and be graphically portrayed as such.

We recommend labeling that compares fortified foods with a food item that has comparable inherent nutrients (i.e., "this bowl of Lucky Charms has the same amount of fiber as X grams of broccoli, but should not be expected to replace the natural equivalent").

Citations

Deruelle, Fabien, and Bertrand Baron. "Vitamin C: Is Supplementation Necessary for Optimal Health?." *Journal of Alternative & Complementary Medicine* 14.10 (2008): 1291-1298. Academic Search Premier. EBSCO. Web. 9 May 2011.

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Novant Medical Group. "Why Calcium Is a Children's Health Priority." *Novant Medical Group*. Web. 1 June 2011.
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Samaniego-Vaesken, Ma de Lourdes, Elena Alonso-Apperte, and Gregorio Varela-Moreiras. "Analysis and Evaluation of Voluntary Folic Acid Fortification of Breakfast Cereals in the Spanish Market." *Journal of Food Composition & Analysis* 23.5 (2010): 419-423. Academic Search Premier. EBSCO. Web. 9 May 2011